

Amendments to the Claims

1-108 (cancelled)

109. (previously presented) A support system for supporting a printing screen unit in a screen printing machine, the support system including:

a support assembly comprising a support unit for supporting a printing screen unit comprising a printing screen including printing apertures through which printing medium is printed onto a workpiece, and a tensioning mechanism for tensioning the printing screen in a screen printing operation; and

a control unit for controlling operation of the support assembly, wherein the control unit is configured to operate the tensioning mechanism to tension the printing screen to a first tension in a printing phase in printing printing medium onto a workpiece and a second tension, which is lower than the first tension, in a separation phase in separating the printing screen unit and the workpiece.

110. (previously presented) The support system of claim 109, wherein the second tension is substantially a zero tension.

111. (previously presented) The support system of claim 109, wherein the tensioning mechanism comprises at least first and second tensioning units for tensioning the printing screen.

112. (previously presented) The support system of claim 111, wherein the tensioning units are configured to apply a tensioning force to opposite edges of the printing screen.

113. (previously presented) The support system of claim 111, wherein the tensioning units are configured to apply tensioning forces to adjacent corners of the printing screen.

114. (previously presented) The support system of claim 113, wherein the tensioning units are configured to apply the tensioning forces along intersecting axes, preferably axes intersecting at a center of the printing screen.

115. (previously presented) The support system of claim 111, wherein the tensioning mechanism comprises four tensioning units each for applying a tensioning force to a respective corner of the printing screen.

116. (previously presented) The support system of claim 115, wherein the tensioning units are configured to apply tensioning forces along intersecting axes, preferably axes intersecting at a center of the printing screen.

117. (currently amended) The support system of claim ~~408~~ 109, wherein the support unit further comprises first and second screen guiding units for guiding the printing screen which are disposed to opposite edges of the printing screen.

118. (previously presented) The support system of claim 117, wherein the screen guiding units act to constrain deflection of the printing screen.

119. (previously presented) The support system of claim 117, wherein the screen guiding units are disposed to ends of the printing screen in the direction of screen printing.

120. (previously presented) The support system of claim 117, wherein the screen guiding units are disposed to sides of the printing screen in the direction of screen printing.

121. (currently amended) The support system of claim ~~408~~ 109, wherein the support unit comprises a clamping mechanism for clamping the printing screen in the printing phase so as to fix the lateral, in-plane position of the printing screen.

122. (previously presented) The support system of claim 121, wherein the clamping mechanism comprises first and second screen clamping units disposed to opposite edges of the printing screen.

123. (previously presented) The support system of claim 122, wherein the screen clamping units are disposed to opposite ends of the printing screen in the direction of printing.

124. (previously presented) The support system of claim 122, wherein the screen clamping units are disposed to opposite sides of the printing screen in the direction of printing.

125. (previously presented) The support system of claim 122, wherein the screen clamping units comprise elongate units which extend along the respective ones of the edges of the printing screen.

126. (previously presented) The support system of claim 122, wherein the screen clamping units comprise vacuum clamping units.

127. (currently amended) The support system of claim ~~408~~ 109, wherein the control unit is configured to operate the support unit to raise one edge of the printing screen relative to the other edge of the printing screen in separating the printing screen unit and the workpiece, such as to peel the printing screen from the one edge thereof away from the workpiece, and thereby separate the printing screen unit from the workpiece.

128. (currently amended) The support system of claim ~~408~~ 109, further comprising:

a printing screen unit, the printing screen unit comprising a printing screen including a pattern of apertures through which printing medium is printed onto a workpiece in the printing phase.

129. (previously presented) The support system of claim 128, wherein the printing screen unit includes first and second attachment members attached to opposite edges of the printing screen.

130. (previously presented) The support system of claim 129, wherein the attachment members each extend along a length of the respective edge of the printing screen.

131. (previously presented) The support system of claim 129, wherein the attachment members are attached to opposite ends of the printing screen in the direction of screen printing.

132. (previously presented) The support system of claim 129, wherein the attachment members are attached to opposite sides of the printing screen in the direction of screen printing.

133. (previously presented) The support system of claim 128, wherein the printing screen unit includes first and second support elements disposed to opposed edges of the printing screen such as to constrain deflection of the printing screen.

134. (previously presented) The support system of claim 133, wherein the support elements each extend along a length of a respective edge of the printing screen.

135. (previously presented) The support system of claim 132, wherein the support elements are disposed to opposite ends of the printing screen in the direction of screen printing.

136. (previously presented) The support system of claim 132, wherein the support elements are disposed to opposite sides of the printing screen in the direction of screen printing.

137. (previously presented) A method of supporting a printing screen unit in a screen printing machine, the method comprising the steps of:

providing a printing screen unit comprising a printing screen including a pattern of printing apertures through which printing medium is printed onto a workpiece;

tensioning the printing screen to a first tension;

printing printing medium onto a workpiece through the pattern of apertures in the printing screen;

tensioning the printing screen to a second tension, which is lower than the first tension; and

separating the printing screen unit from the workpiece.

138. (previously presented) The method of claim 137, wherein the second tension is substantially a zero tension.

139. (previously presented) The method of claim 137, wherein the tensioning forces are applied to opposite edges of the printing screen.

140. (previously presented) The method of claim 137, wherein the tensioning forces are applied to adjacent corners of the printing screen.

141. (previously presented) The method of claim 140, wherein the tensioning forces are applied along intersecting axes, preferably axes intersecting at a center of the printing screen.

142. (previously presented) The method of claim 137, wherein the tensioning forces are applied to the respective corners of the printing screen.

143. (previously presented) The method of claim 142, wherein the tensioning forces are applied along intersecting axes, preferably axes intersecting at a center of the printing screen.

144. (previously presented) The method of claim 137, further comprising the step of:

clamping the printing screen in the printing step so as to fix the lateral, in-plane position of the printing screen.

145. (previously presented) The method of claim 144, wherein the printing screen is clamped at opposite edges thereof.

146. (previously presented) The method of claim 145, wherein the printing screen is clamped at opposite ends thereof in the direction of screen printing.

147. (previously presented) The method of claim 145, wherein the printing screen is clamped at opposite sides thereof in the direction of screen printing.

148. (previously presented) The method of claim 137, wherein the separating step comprises the step of:

raising one edge of the printing screen relative to the other edge of the printing screen, such as to peel the printing screen from the one edge thereof away from the workpiece, and thereby separate the printing screen unit from the workpiece.

149. (cancelled)

150. (cancelled)

151. (previously presented) A support system for supporting a printing screen unit in a screen printing machine, the support system including:

a printing screen unit, the printing screen unit comprising a printing screen including a pattern of apertures through which printing medium is printed onto a workpiece;

a support assembly comprising a support unit for supporting the printing screen unit, and a tensioning mechanism for tensioning the printing screen in a screen printing operation; and

a control unit for controlling operation of the support assembly, wherein the control unit is configured to operate the tensioning mechanism to tension the printing screen to a first tension in a printing phase in printing printing medium onto a workpiece and a second tension, which is lower than the first tension, in a separation phase in separating the printing screen unit and the workpiece.

152. (cancelled)